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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,340	10/14/2000	Peter Kagi	WLAN.P-001	5113
21121	7590	12/17/2003	EXAMINER	
OPPEDAHL AND LARSON LLP			THOMPSON, CAMIE S	
P O BOX 5068				
DILLON, CO 80435-5068			ART UNIT	PAPER NUMBER
			1774	

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/673,340

Applicant(s)

KAGI ET AL.

Examiner

Camie S Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Appeal filed September 29, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

1. The Examiner regrets the untimely reopening of prosecution.
2. The rejection of claims 2, 6-8, 11-12 and 16 under 35 U.S.C. 112, second paragraph is withdrawn.
3. The rejection of claims 1-8 and 11-20 under 35 U.S.C. 103(a) as being unpatentable over Billiu, U.S. Patent Number 5,173,142 in view of Guerrini et al., U.S. Patent Number 5,362,431 is withdrawn due to applicant's argument.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8, and 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohman, U.S. Patent Number 5,637,375 in view of Guerrini et al., U.S. Patent Number 5,362,431.

Hohman discloses shaped fiber reinforced composites with at least two structural components wherein the first composite is a forming structure and the second component is a fiber reinforcing component as per instant claim 1 (see column 4, lines 10-24 and Figures 1 & 2). The Hohman reference also discloses that the second component is a load-bearing member and is fused with the first component as per instant claims 1-4, 6 and 12-19 (see Figures 1 & 2 and

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column 5, lines 5-8). Additionally, the reference discloses that the fibers can be glass; carbon or Kevlar and the matrix material can be polyester, polyamides and polyimides as per instant claims 7 and 8 (see column 1, lines 15-23). The Hohman reference discloses that the second component has continuous fibers strands as per instant claim 1 (see column 9, lines 17-20). Column 2, lines 13-23 of the Hohman reference disclose that the structure is braided as per instant claim 10. The Hohman reference does not disclose that the first component is a long fiber reinforced component and the length of the long fibers as per instant claims 1 and 11. Guerrini teaches long-fiber reinforced thermoplastics for preparing shaped bodies wherein the length of the fibers are 2 to 10 mm (see abstract and column 4, lines 16-17). Long fibers exhibit good reinforcing characteristics. Therefore, it would have been obvious to one of ordinary skill in the art to use long fibers for the first component of the Hohman reference in order to obtain good mechanical performances as taught by Guerrini in column 1, lines 54-68.

Hohman does not disclose the fiber volume of the continuous fiber strands. The Guerrini reference also discloses a fiber volume higher than 20% (see column 3, lines 34-37). The fiber volume affects the processibility of the fibers. However, this feature is optimizable. Discovery of optimum values of a result effective variable only involves routine skill in the art in re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Therefore, it would have been obvious to one of ordinary skill in the art to have a fiber volume higher than 20% in order to have improved processibility of the fibers for higher mechanical strengths.

Neither reference discloses that the continuous fiber strands run in different directions as per instant claim 5. However, it is known in the art that continuous fiber strands run in different

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directions in the thermoplastic matrix in order to have increased mechanical properties as shown by column 1, lines 60-68 of Guerrini.

6. Claims 1 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohman, U.S. Patent Number 5,637,375 in view of Guerrini et al., U.S. Patent Number 5,362,431 and in further view of Cheshire, U.S. Patent Number 6,106,650.

The Hohman and Guerrini references are relied upon for claims 1-8 and 11-19 as above. Neither reference discloses that the continuous fiber strands are twisted. The Cheshire reference teaches a fiber-reinforced composite having fiber-reinforcing elements incorporated in a matrix. The Cheshire reference discloses that the continuous fibers in reinforced composites are twisted so that they are unable to slide relative to each other due to the friction between the fibers (see column 1, lines 41-49). Therefore, it would have been obvious to one of ordinary skill in the art to use twisted, continuous fibers being motivated by decreasing elongation of the fibers under tension.

7. Claims 1 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohman, U.S. Patent Number 5,637,375 in view of Guerrini et al., U.S. Patent Number 5,362,431 and in further view of Billiu, U.S. Patent Number 5,173,142.

The Hohman and Guerrini references are relied upon for claims 1-8 and 11-19 as above. Billiu discloses a structural body with at least two structural components wherein the components are made out of first and second rigid, fiber reinforced thermoplastic matrix, whereby the first and second fiber reinforced thermoplastic matrices are fused together to create a hollow section assembly as per instant claim 20 (see column 1, lines 17-24 and abstract). The hollow section is used to make a shaped body. Therefore, it would have been obvious to one of ordinary skill in

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the art to have a hollow section in order to have shaped body that can be used for a vehicle and other constructions.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (703) 305-4488. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly, can be reached at (703) 308-0449. The fax phone number for the Group is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

CYNTHIA H. KELLY
SUPERVISOR
TELEPHONE NUMBER 1700

Cynthia H. Kelly